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Adult Trematodes (Platyhelminthes) of freshwater fishes from Argentina: a checklist

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Abstract: This work provides information on the occurrence of adult trematodes (Aspidogastrea and Digenea) in freshwater fishes from Argentina. To date, a total of 77 trematode species belonging to 21 families have been recorded. Haploporidae, Allocreadiidae and Cryptogonimidae (15, nine and nine species, respectively) showed the highest species richness, whereas the number of species ranged from one to seven species for the other 18 families. Of these, five new species have been recently described in Argentina; nine were cited for the first time; 17 had new host records, and 28 were reported from new localities. The orders Characiformes, Perciformes and Siluriformes harboured the highest richness of trematode species.

Keywords: Biodiversity - Aspidogastrea - Digenea - New hosts - First records - New localities.

INTRODUCTION

The first study of Trematoda of freshwater fishes in Argentina was conducted by Szidat (1951), and since then several new species have been described. Since the study of South-American trematodes by Kohn *et al.* (2007) and other work of parasites restricted to the middle Paraná River (Chemes & Takemoto, 2011), 15 new species of freshwater fish trematodes have been described and/or recorded for this region, making a total of 199 fully identified species at the adult stage. Recently, an attempt was made to provide a worldwide overview on freshwater fish trematodes (Choudhury *et al.*, 2016; Scholz *et al.*, 2016).

The freshwater fish fauna of Argentina consists of more than 500 species, with new species being constantly described (Menni, 2004; Cussac *et al.*, 2009; Almirón *et al.*, 2008, 2015; Mirande & Koerber, 2015).

The objective of the present checklist is to update the diversity of adult trematodes from freshwater fishes from Argentina. It is based on published papers cited in the references, and records of species cited for the first time or that were found in new hosts and localities, which were obtained by the authors during the last 26 years.

MATERIAL AND METHODS

The checklist is based upon published papers between 1951 and 2016. The Trematoda are presented according to families in alphabetical order; each taxon contains information on the species such as authority and year, synonyms, acronyms of museums for the deposited material, host(s) (including type host and country), localities (including type locality and country), site of infection, life cycle (when it is completely known), references and remarks (when justified). A list of fish hosts and their trematodes is also included. The classification for trematodes follows the Keys to the Trematoda (Gibson *et al.*, 2002; Jones *et al.*, 2005; Bray *et al.*, 2008) and the fish classification is according Fishbase (Froese & Pauly, 2016).

Acronyms for the helmintological collections are: BMNH - British Museum of Natural History, London, United Kingdom; CHIOC - Helminthological Collection of the Oswaldo Cruz Institute, Rio de Janeiro, Brazil; IPCAS - Institute of Parasitology, Academy of Science of the Czech Republic, Ceské Budějovece, Czech Republic; MACN-Pa - Museo Argentino de Ciencias Naturales "Bernardino Rivadavia", Buenos Aires, Argentina; MLP

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- Museo de La Plata, Buenos Aires, Argentina; NHM - Naturhistorisches Museum Wien, Vienna, Austria; NSMT-PI - National Science Museum, Tokyo, Japan [now National Museum of Nature and Science (NMNS)]; NRM - Swedish Museum of Natural History, Stokholm, Sweden; UNC - Parasite Collection of the Universidad Nacional del Comahue, Bariloche, Argentina; USNM - United States National Parasite Collection, Washington, U.S.A [recently transferred to the National Museum of Natural History (NMNH)]. Deposition numbers at MACN are indicated only for new voucher material. The following abbreviations and symbols are used: *new host registered by the present authors; **new locality registered by the present authors; ● indicated doubtful fish host; IH1, first intermediate host; IH2, second intermediate host; and FH, final host.

RESULTS

Class Trematoda Rudolphi, 1808
Subclass Aspidogastrea Faust & Tang, 1936
Family Aspidogastridae Poche, 1907
***Lobatostoma* Eckmann, 1932**
***Lobatostoma jungwirthi* Kritscher, 1974**

Material deposited: MACN-Pa 582/1–5 (new voucher material), MLP, NHM (type material).

Hosts: *Gymnogeophagus rhabdotus* (Hensel) (= *Geophagus brachyurus* Cope) (type host, Brazil), *Australoheros facetus* (Jenyns) [= *Cichlasoma facetum* (Jenyns)] (Perciformes: Cichlidae).

Life cycle: IH1 *Heleobia castellanosae* Gaillard, *Heleobia parchappii* (d´Orbigny) (Gastropoda: Rissooidea) (natural hosts); FH *A. facetus* (natural host), *Gymnogeophagus meridionalis* Reis & Malabarba (experimental host).

Localities: Rio dos Sinos (San Leopoldo), Rio Grande do Sul State, Brazil (type locality); Cantera (quarry) (Berisso), Chascomús Lagoon (Chascomús) and Saladita Pond (Avellaneda), Buenos Aires Province; Tres de Febrero Park (artificial pond), Buenos Aires City.

Site of infection: Gonads and digestive gland in the molluscan host, posterior intestine and rectum in the cichlid fishes.

References: Kritscher (1974) Lunaschi (1984a), Zylber & Ostrowski de Núñez (1999), Paola & Damborenea (2001).

Remarks: Some specimens began egg production in the molluscan host. Paola & Damborenea (2001) studied the tegument surface of the species.

Subclass Digenea Carus, 1863
Family Allocreadiidae Looss, 1902
***Allocreadium* Looss, 1900**
***Allocreadium patagonicum* Shimazu, Urawa & Coria, 2000**

Polylekithum percai Ostrowski de Núñez, Brugni & Viozzi, 2000

Material deposited: BNMH, IPCAS (type material), MACN-Pa, NSMT-PI (type material); UNC.

Hosts: *Percichthys colhuapiensis* (MacDonagh) (type host), *Percichthys trucha* (Valenciennes) (Perciformes: Percichthyidae).

Locality: Aluminé Lake (type locality), Neuquén Province; Falkner, Moreno and Escondido Lakes, Rio Negro Province; Rivadavia Lake, Chubut Province.

Site of infection: Intestine.

References: Ostrowski de Núñez *et al.* (2000), Shimazu *et al.* (2000), Flores *et al.* (2004).

Remarks: Ostrowski de Núñez *et al.* (2000) described *P. percai* from *P. trucha* in Patagonia; posteriorly Flores *et al.* (2004) considered this species as synonym of *A. patagonicum.*

***Allocreadium pichi* Flores, Brugni & Ostrowski de Núñez, 2004**

Material deposited: BMNH (type material), MACN-Pa (type material), MLP (type material), UNC (type material).

Hosts: *Galaxias maculatus* (Jenyns) (type host) (Osmeriformes: Galaxiidae).

Locality: Moreno Lake, Río Negro Province (type locality).

Site of infection: Intestine.

Reference: Flores *et al.* (2004).

***Auriculostoma* Scholz, Aguirre-Macedo & Choudhury, 2004**
***Auriculostoma macrorchis* (Szidat, 1954)**

Crepidostomum macrorchis Szidat, 1954

Material deposited: MACN-Pa 583, 584/1–2, 585/1–3, 586/1–2 (type and new voucher material).

Hosts: *Pachyurus bonariensis* Steindachner (type host) (Perciformes: Scienidae); *Ageneiosus inermis* (Linnaeus), *Ageneiosus militaris** Valenciennes, *Auchenipterus nigripinnis* (Boulenger), *Auchenipterus osteomystax* (Miranda Ribeiro) [= *Auchenipterus nuchalis* (Spix and Agassiz)] (Siluriformes: Auchenipteridae), *Luciopimelodus pati** (Valenciennes) (Siluriformes:

Pimelodidae), *Rhinodoras dorbignyi** (Kner) (Siluriformes: Doradidae).

Localities: La Plata River, Buenos Aires City (type locality); Middle Paraná River, Corrientes Province; Colastiné River** (tributary of the Paraná River) (31°40′S, 60°46′W), Santa Fe Province; Paraná-Guazú River** (33°54′S; 58°52′W), Entre Ríos Province.

Site of infection: Anterior, middle and posterior part of intestine.

References: Szidat (1954), Hamann (1988), Scholz *et al.* (2004), Arredondo (2013).

Remarks: New hosts and localities records. Hamann (1988) indicated the presence of *A. macrorchis* in *A. nuchalis*, but according to Liotta (2005) and to Froese & Pauly (2016), the records of this species probably correspond to *A. osteomystax*.

Auriculostoma platense (Szidat, 1954)

Crepidostomum platense Szidat, 1954

Material deposited: MACN-Pa 587, 588/1–2, 589 (type and new voucher material).

Hosts: *Iheringichthys labrosus* (Lütken), *Pimelodus maculatus* Lacépède (= *Pimelodus clarias* Lacépède) (Siluriformes: Pimelodidae) and *Rhinodoras dorbignyi* (Siluriformes: Doradidae) (type host not assigned); *Pimelodus albicans** (Valenciennes), *Pimelodus argenteus** Perugia (Siluriformes: Pimelodidae), *Rhamphichthys rostratus** (Linnaeus) (Gymnotiformes: Rhamphichthyidae).

Localities: La Plata River, Buenos Aires City (type locality); Colastiné River** (tributary of the Paraná River), Santa Fe Province.

Site of infection: Intestine.

References: Szidat (1954), Scholz *et al.* (2004), Arredondo (2013).

Remarks: New hosts and locality records.

Creptotrema Travassos, Artigas & Pereira, 1928
Creptotrema creptotrema Travassos, Artigas & Pereira, 1928

Material deposited: CHIOC (type material), MACN-Pa 590/1–2 (new voucher material), MLP.

Hosts: *Leporinus elongatus* Valenciennes (type host, Brazil), *Leporinus obtusidens* (Valenciennes) (Characiformes: Anostomidae); *Trachelyopterus striatulus** (Steindachner), *Trachelyopterus galeatus* (Linnaeus) (= *Parauchenypterus galeatus* Linneaus) (Siluriformes: Auchenipteridae).

Localities: Mogi-Guaçu River (Emas, Pirassununga), São Paulo State, Brazil (type locality); Middle Paraná River, Corrientes Province; Colastiné River**, Santa Fe Province; Irigoyen Canal, Talavera Island, Buenos Aires Province.

Site of infection: Anterior part of intestine.

References: Kohn (1984), Lunaschi (1985a), Hamann (1988), Lunaschi & Sutton (1995), Arredondo (2013).

Remarks: New host and locality records.

Creptotrema lynchi Brooks, 1976

Material deposited: MLP, USNM (type material).

Hosts: *Rhinella marina* (Linnaeus) (Anura: Bufonidae) (type host, Colombia), *Leporinus obtusidens*.

Localities: 1 km north of San Cristobal, Atlántico, Colombia (type locality); Irigoyen Canal, Talavera Island, Buenos Aires Province.

Site of infection: Pyloric caeca (in fish).

Reference: Lunaschi & Sutton (1995).

Remarks: The absence of subsequent reports of *C. lynchi* from anurans suggests that *R. marina* may have been an accidental host (Curran, 2008).

Creptotrema pati Lunaschi, 1985

Material deposited: MLP (type material).

Hosts: *Luciopimelodus pati* (type host).

Locality: Atalaya (Magdalena), Buenos Aires Province (type locality).

Site of infection: Intestine.

Reference: Lunaschi (1985a).

Creptotrematina Yamaguti, 1974
Creptotrematina dispar (Freitas, 1941)

Creptotrema dispar Freitas, 1941

Material deposited: CHIOC (type material); not available for Argentinean material.

Host: *Triportheus paranensis* (Günther) (= *Chalcinus paranensis* Günther) (type host, Brazil) (Characiformes: Triportheidae).

Locality: Rio Miranda (Salobra), Mato Grosso State, Brazil (type locality); Middle Paraná River, Corrientes Province.

Site of infection: Anterior part of intestine.

References: Freitas (1941b), Hamann (1988).

Creptotrematina dissimilis (Freitas, 1941)

Creptotrema dissimilis Freitas, 1941

Material deposited: CHIOC (type material), MLP.

Host: *Tetragonopterus argenteus* Cuvier (type host, Brazil); *Astyanax bimaculatus* (Linnaeus), *Astyanax eigenmanniorum* (Cope) (Characiformes: Characidae).

Locality: Rio Miranda (Salobra), Mato Grosso State, Brazil (type locality); Trin Lagoon (Iberá Inlet), Corrientes Province; Boca Cerrada and Miguelín Stream (Ensenada), Buenos Aires Province.

Site of infection: Intestine.

References: Freitas (1941c), Hamann (1983), Lunaschi (1985a).

Alloglossidiidae Hernandez-Mena, Mendoza-Garfias, Ornelas-Garcia & Perez-Ponce de Leon, 2016
Magnivitellinum Kloss, 1966
Magnivitellinum corvitellinum Lacerda, Takemoto & Pavanelli, 2009

Material deposited: CHIOC (type material), MACN-Pa 611/1–2 (new voucher material), USNPC (type material).

Host: *Hoplosternum littorale* (Hancock) (Siluriformes: Callichthyidae) (type host, Brazil).

Localities: Upper Paraná River floodplain, Brazil (type locality); Paraná-Guazú River**, Entre Ríos Province.

Site of infection: Middle and posterior part of intestine.

References: Lacerda *et al.* (2009), Arredondo (2013).

Remarks: First mention of this species in Argentina.

Magnivitellinum simplex Kloss, 1966

Material deposited: MLP, MACN-Pa 612 (new voucher material).

Hosts: *Astyanax bimaculatus* (type host, Brazil), *Astyanax* sp., *A. eigenmanniorum*, *A. fasciatus*, *Oligosarcus jenynsi*, *Sorubim lima**.

Life cycle: IH1 *Biomphalaria tenagophila* (d'Orbigny), IH2 *Aedes aegypti* (Linnaeus) (experimental host).

Localities: Mogi-Guaçu River (Emas, Pirassununga) Estado São Paulo State, Brazil (type locality); Tres Palmeras, Salta Province; Colastiné River** (tributary of the Paraná River), Santa Fe Province; Doña Flora Stream (tributary of La Plata River), Miguelín Stream (Ensenada), Cantera (quarry) Aprilito, Chascomús Lagoon (Chascomús) and La Plata River, Buenos Aires Province.

Site of infection: Intestine.

References: Lunaschi (1989b), Arredondo (2013), Davies (2014).

Remarks: New host and locality record.

Family Apocreadiidae Skrjabin, 1942
Crassicutis Manter, 1936
Crassicutis cichlasomae Manter, 1936

Material deposited: MACN-Pa 591/1–2, 592 (new voucher material).

Host: *Cichlasoma mayorum* Hubbs (type host, México), *Cichlasoma dimerus** (Heckel), *Crenicichla lepidota** Heckel (Perciformes: Cichlidae).

Locality: Cenote, Yucatán, México (type locality); Colastiné River** (tributary of Paraná River), Santa Fe Province.

Site of infection: Intestine.

References: Fernandes & Kohn (2001), Arredondo (2013).

Remarks: First record of this species in Argentina.

Crassicutis intermedius (Szidat, 1954)

Eocreadium intermedium Szidat, 1954

Material deposited: MACN-Pa 593/1–2 (type and new voucher material).

Host: *Hypostomus commersoni* (Valenciennes) [= *Plecostomus commersoni* (Valenciennes)] (type host) (Siluriformes: Loricariidae).

Localities: La Plata River, Buenos Aires City (type locality); Paraná-Guazú River**, Entre Ríos Province.

Site of infection: Stomach.

References: Szidat (1954), Arredondo (2013).

Remarks: New locality record. Bray *et al.* (1996) redescribed this species from *Hypostomus cochliodon* (Kner) and *Hypostomus commersoni*, Paraná River (Itapúa Province) and *Hypostomus piratatu* Weber, Santa Sofía Ranch, Concepción Province, Paraguay.

Homalometron Stafford, 1904
Homalometron papilliferum (Szidat, 1956)

Austrocreadium papilliferum Szidat, 1956

Material deposited: MACN-Pa (type material), NSMT-PI, UNC.

Host: *Percichthys trucha* (type host).

Localities: Limay River, Río Negro Province (type locality); Araucarian Region of Andean Patagonia (see

table 2 in Ostrowski de Núñez *et al.*, 2000), Aluminé Lake, Neuquén Province.

Site of infection: Intestine.

References: Szidat (1956b), Ostrowski de Núñez *et al.* (2000), Shimazu *et al.* (2000).

Homalometron pseudopallidum Martorelli, 1986

Material deposited: MLP (type material).

Host: *Gymnogeophagus australis* (Eigenmann) (Perciformes: Cichlidae) (type host).

Life cycle: IH1 *Heleobia parchappii*; IH2 Tubificidae.

Locality: small lagoon at Los Talas (Berisso), Buenos Aires Province (type locality).

Site of infection: Intestine.

Reference: Martorelli (1986).

Posterotestes Ostrowski de Núñez, Brugni & Flores, 2003

Posterotestes uneleu Ostrowski de Núñez, Brugni & Flores, 2003

Material deposited: IPCAS (type material), MACN-Pa (type material), MLP (type material), UNC (type material).

Host: *Percichthys trucha* (type host).

Localities: Epuyén Lake (type locality), Chubut Province; other localities see table 1 in Ostrowski de Núñez *et al.* (2003).

Site of infection: Posterior part of intestine.

Reference: Ostrowski de Núñez *et al.* (2003).

Procaudotestis Szidat, 1954

Procaudotestis uruguayensis Szidat, 1954

Material deposited: BMNH; MACN-PA (type material); MHNG.

Host: *Paraloricaria vetula* (Valenciennes) [= *Loricaria vetula* (Valenciennes)] (type host) (Siluriformes: Loricariidae).

Locality: Uruguay River, Santo Tomé, Corrientes Province (type locality).

Site of infection: Stomach.

Reference: Szidat (1954).

Remarks: Bray *et al.* (1996) redescribed this species from *Loricaria* sp., Paraná River (Itapúa Province), Paraguay.

Family Aporocotylidae Odhner, 1912

Plehniella Szidat, 1951

Plehniella coelomicola Szidat, 1951

Material deposited: MACN-Pa 614/1–2 (type and new voucher material), MLP.

Hosts: *Iheringichthys labrosus* (type host), *Pimelodus albicans*, *P. maculatus*, *Pseudoplatystoma corruscans**, *Hoplosternum littorale**.

Localities: La Plata River in front of Buenos Aires City (type locality), Paraná River**, Italia Port, Corrientes City, Corrientes Province, Paraná-Guazú River**, Entre Ríos Province, Argentina.

Site of infection: Coelomic cavity.

References: Szidat (1951), Lunaschi (1985b), Avendaño de MacIntosh & Ostrowski de Núñez (1998), Arredondo (2013), Orélis-Ribeiro & Bullard (2015).

Remarks: New hosts and localities records. Erroneously referred to as *P. coelomica* by Lunaschi (1985b) and Avendaño de MacIntosh & Ostrowski de Núñez (1998).

Sanguinicola Plehn, 1905

Janickia Rašín, 1928

Sanguinicola argentinensis Szidat, 1951

Material deposited: MACN-Pa (type material).

Hosts: *Prochilodus lineatus* Valenciennes (= *Prochilodus platensis* Holmberg) (type host) (Characiformes: Prochilodontidae).

Localities: La Plata River, Buenos Aires (type locality).

Site of infection: Heart, arteries.

Reference: Szidat (1951).

Family Bucephalidae Poche, 1907

Prosorhynchoides Dollfus, 1929

Prosorhynchoides cambapuntaensis Lunaschi, 2004

Material deposited: MLP (type material).

Host: *Salminus brasiliensis* (Cuvier) (= *Salminus maxillosus* Valenciennes) (type host) (Characiformes: Bryconidae).

Locality: Paraná River near Experimental Field Cambá-Punta, Corrientes Province (type locality).

Site of infection: Intestine.

Reference: Lunaschi (2004).

Prosorhynchoides rioplatensis (Szidat, 1970)

Bucephalopsis rioplatensis Szidat, 1970

Material deposited: MACN-Pa (type material).

Host: *Catathyridium jenynsii* (Günther) (= *Achirus trichospilus* Berg) (type host) (Pleuronectiformes: Achiridae).

Locality: La Plata River, Buenos Aires City (type locality).

Site of infection: Intestine.

References: Szidat (1970b), Lunaschi (2003).

Rhipidocotyle Diesing, 1858
Rhipidocotyle santanaensis Lunaschi, 2004

Material deposited: MLP (type material).

Host: *Acestrorhynchus pantaneiro* Menezes (type host) (Characiformes: Acestrorhynchidae).

Locality: Small natural pond at Santa Ana (type locality), Corrientes Province.

Site of infection: Pyloric caeca.

Reference: Lunaschi (2004).

Family Callodistomidae Odhner, 1910
Prosthenhystera Travassos, 1922
Prosthenhystera obesa (Diesing, 1850)

Distomum obesum Diesing, 1850
Pseudoprosthenhystera microtesticulata Kloss, 1966

Material deposited: MLP, NHM (type material).

Hosts: *Salminus brasiliensis* (= *S. brevidens* Cuvier), *Leporinus friderici* (Bloch) (type host not assigned, Brazil) (Characiformes: Anostomidae), *Luciopimelodus pati**, *Pimelodus albicans**.

Localities: Mato Grosso State, Brazil (type locality); Colastiné River** (tributary of Paraná River), Santa Fe Province; Delta of Paraná River, Buenos Aires Province; Irigoyen Canal, Talavera Island, Buenos Aires Province; La Plata River** in front of Buenos Aires City.

Site of infection: Gall bladder.

References: Diesing (1950), Lunaschi & Sutton (1995), Arredondo (2013).

Remarks: New hosts and locality records. Kohn *et al.* (1997) redescribed this species from Brazil parasitizing a wide range of hosts.

Family Cladorchiidae Southwell & Kirshner, 1937
Dadaytrema Travassos, 1931
Dadaytrema gracilis Lunaschi, 1989

Material deposited: MACN-Pa 594/1–2 (new voucher material), MLP (type material).

Hosts: *Pimelodella gracilis* (Valenciennes) (type host) (Siluriformes: Heptapteridae), *Pterodoras granulosus** (Valenciennes) (Siluriformes: Doradidae).

Localities: Brazo Chico Stream (tributary of Uruguay River), Entre Rios Province (type locality), Paraná-Guazú River**, Entre Ríos Province.

Site of infection: Middle and posterior part of intestine.

References: Lunaschi (1989a), Arredondo (2013).

Remarks: New host and locality records. The present authors also recovered *D. gracilis* in the type host.

Dadaytrema oxycephala (Diesing, 1836)

Amphistoma oxycephalum Diesing, 1836
Dadayia oxycephala Travassos, Artigas & Pereira, 1928

Material deposited: MACN-Pa 595 (new voucher material), NHM (type material).

Hosts: *Salminus brasiliensis* (*Salmo aurata* Larrañaga), *Salmo pacu* (non valid name), *Silurus megacephalus* (non valid name) and *Myleus rhomboidalis* (Cuvier) (*Salmo pacupeba* Kner) (type host not assigned, Brazil), *Piaractus mesopotamicus* (Holmberg) (Characiformes: Serrasalminae), *Pterodoras granulosus*.

Localities: Paraná River, Cuyaba, Araguay River, Brazil (type locality); Paraná and Paraguay rivers confluence and Middle Paraná River near Corrientes City, Corrientes Province; Colastiné River** (tributary of Paraná River), Santa Fe Province; Paraná-Guazú River**, Entre Ríos Province.

Site of infection: Middle and posterior part of intestine.

References: Hamann (1982a, b), Arredondo (2013).

Remarks: New locality records.

Dadaytremoides Thatcher, 1979
Dadaytremoides parauchenipteri Lunaschi, 1989

Material deposited: MLP (type material).

Host: *Trachelyopterus galeatus* (Linnaeus) [= *Parauchenipteus galeatus* (Linnaeus)] (type host) (Siluriformes: Auchenipteridae).

Locality: Brazo Chico Stream (tributary of Uruguay River), Entre Ríos Province (type locality); Yrigoyen Canal, Talavera Island, Buenos Aires Province.

Site of infection: Intestine.

References: Lunaschi (1989a), Lunaschi & Sutton (1995).

***Microrchis* Daday, 1907**
***Microrchis oligovitellinum* Lunaschi, 1987**

Material deposited: MACN-Pa 596, 597 (new voucher material), MLP (type material).

Hosts: *Luciopimelodus pati* and *Trachelyopterus striatulus* [= *Trachycoristes striatulus* (Steindachner)] (type host not assigned), *Ageneiosus inermis**, *A. militaris**, *Pterodoras granulosus**.

Localities: Atalaya (Magdalena) and Punta Lara (Ensenada), Buenos Aires Province (type locality not assigned); Colastiné River** (tributary of Paraná River), Santa Fe Province.

Site of infection: Anterior, middle and posterior part of intestine.

References: Lunaschi (1987), Arredondo (2013).

Remarks: New hosts and locality records.

***Travassosinia* Vaz, 1932**
***Travassosinia dilatata* (Daday, 1907)**

Chiorchis dilatatus Daday, 1907

Material deposited: MACN-Pa 598 (new voucher material), information about type material not provided by Daday (1907).

Hosts: *Piaractus brachypomus* (Cuvier) [= *Colossoma brachypomus* (Cuvier)] (type host, Paraguay), *P. mesopotamicus* [= *Colossoma mitrei* (Berg)] (Characiformes: Serrasalmidae), *P. granulosus*, *Salminus brasiliensis**.

Localities: Paraguay (type locality); Paraná and Paraguay rivers confluence and Middle Paraná River near Corrientes City, Corrientes Province; Paraná-Guazú River**, Entre Ríos Province.

Site of infection: Intestine.

References: Daday (1907), Hamann (1982a, b), Arredondo (2013).

Remarks: New host and locality records. The description of this species was based on one specimen from Paraguay; it was not possible to trace where this specimen was deposited.

Family Cryptogonimidae Ward, 1917
***Acanthostomoides* Szidat, 1956**
***Acanthostomoides apophalliformis* Szidat, 1956**

Material deposited: IPCAS, MACN-Pa (type material), NSMT-PI, UNC.

Hosts: *Percichthys trucha* (type host), *P. colhuapiensis*, *Galaxias maculatus*, *Oncorhynchus mikiss* (Walbaum), *Salmo trutta* (Linnaeus) (Salmoniformes: Salmonidae), *Olivaichthys viedmensis* (MacDonagh) (= *Diplomystes viedmensis* MacDonagh) (Siluriformes: Diplomystidae).

Life cycle: IH1 *Heleobia hatcheri* (Pilsbry, 1911); IH2 *Galaxias maculatus*.

Localities: Limay River, Río Negro Province (type locality); Araucarian Region of the Andean Patagonia (see list of lakes and rivers in Ostrowski de Núñez *et al.*, 1999).

Site of infection: Intestine.

References: Szidat (1956b), Ostrowski de Núñez *et al.* (1999), Shimazu *et al.* (2000), Revenga *et al.* (2006a, b).

***Acanthostomum* Looss, 1899**
***Acanthostomum gnerii* Szidat, 1954**

Material deposited: MACN-Pa 599 (type and new voucher material).

Hosts: *Rhamdia quelen* (Quoy & Gaimard) [= *Rhamdia sapo* (Valenciennes)] (type host), *Pimelodella laticeps* Eigenmann (Siluriformes: Heptapteridae), *Cyphocharax gilbert* (Quoy & Gaimard) [= *Pseudocurimata gilberti* (Quoy & Gaimard)] (Characiformes: Curimatidae).

Life cycle: IH1 *Heleobia parchappii* (Pilsbry) (Prosobranchia: Hydrobiidae); IH2 *Cnesterodon decemmaculatus* (Jenyns) (Cyprinodontiformes: Poeciliidae), *Odontesthes bonariensis* (Valenciennes) [= *Basilichthys bonariensis* (Valenciennes)] (Atheriniformes: Atherinopsidae), *Astyanax* sp., *Jenynsia multidentata* (Jenyns) [= *Jenynsia lineata* (Jenyns)], *Oligosarcus* sp. (= *Acestrorhamphus* sp.); FH *Rhamdia quelen*, *Pimelodella laticeps*.

Localities: Paraná River near Rosario City (type locality), Santa Fe Province; Chis-Chis and Chascomús Lagoon (Chascomús) and Cantera (quarry) Los Talas (Berisso), Buenos Aires Province.

Site of infection: Stomach (Lunaschi, 1986), anterior part of intestine.

References: Szidat (1954), Lunaschi (1986), Ostrowski de Núñez & Gil de Pertierra (1991), Gil de Pertierra & Ostrowski de Núñez (1995).

***Neocladocystis* Manter & Pritchard, 1969**
***Neocladocystis intestinalis* (Vaz, 1932)**

Material deposited: CHIOC, MACN-Pa.

Host: *Salminus brasiliensis* (type host, Brazil).

Life cycle: IH1 *Aylacostoma chloroticum* Hylton Scott; IH2 *Moenckhausia dichroura* (Kner), *Hyphessobrycon eques* (Steindachner) (natural hosts), *Poecilia reticulata*

Peters, *Cnesterodon decemmaculatus*, *Gymnocorymbus ternetzi* (Boulenger), *Prochilodus* sp. (experimental hosts); FH *Salminus brasiliensis*.

Localities: Tietê and Mogy-Guaçú rivers, São Paulo State, Brazil (type locality); Yacyretá Dam, Corrientes Province.

Site of infection: Pyloric caeca, intestine.

Reference: Quintana & Ostrowski de Núñez (2016).

Remarks: First record of the species and its life cycle in Argentina.

Palaeocryptogonimus Szidat, 1954
Palaeocryptogonimus claviformis Szidat, 1954

Material deposited: MACN-Pa (type material).

Hosts: *Rhinodoras dorbignyi* (type host).

Locality: La Plata River in front of Buenos Aires City (type locality).

Site of infection: Stomach, anterior part of intestine.

Reference: Szidat (1954).

Parspina Pearse, 1920
Parspina argentinensis (Szidat, 1954)

Proneochasmus argentinensis Szidat, 1954

Material deposited: MACN-Pa (type and voucher material).

Hosts: *Pimelodus maculatus* [= *Pimelodus clarias* (Linnaeus)] (type host), *P. albicans*, *P. argenteus*, *Iheringichthys labrosus*, *Pimelodella gracilis*, *Parapimelodus valenciennis* (Lütken) (Siluriformes; Pimelodidae).

Localities: La Plata River in front of Buenos Aires City (type locality); Colastiné River (tributary of Paraná River), Santa Fe Province; Paraná-Guazú River, Entre Ríos Province.

Site of infection: Stomach, anterior, middle and posterior part of intestine.

References: Szidat (1954), Ostrowski de Núñez *et al.* (2011a).

Remarks: Ostrowski de Núñez *et al.* (2011a) redescribed and studied the tegument surface of the species.

Parspina carapo Ostrowski de Núñez, Arredondo & Gil de Pertierra, 2011

Material deposited: MACN-Pa (type material).

Host: *Gymnotus* sp. (type host) (Gymnotiformes: Gymnotidae) (see remarks).

Localities: Paraná-Guazú River, Entre Ríos Province (type locality); Colastiné River (tributary of Paraná River), Santa Fe Province.

Site of infection: Middle and posterior part of intestine.

Reference: Ostrowski de Núñez *et al.* (2011b).

Remarks: Ostrowski de Núñez *et al.* (2011b) studied the tegument surface of the species, which was compared with that of *Parspina argentinensis*. Ostrowski de Núñez *et al.* (2011b) indicated the presence of *P. carapo* in *Gymnotus carapo*, but according to Froese & Pauly (2016) and Casciotta *et al.* (2013) this species is not present in continental waters of Argentina.

Parspina pimelodellae Arredondo & Ostrowski de Núñez, 2013

Material deposited: MACN-Pa (type material).

Host: *Pimelodella gracilis* (type host).

Locality: Paraná-Guazú River, Entre Ríos Province (type locality).

Site of infection: Anterior part of intestine.

Reference: Arredondo & Ostrowski de Núñez (2013).

Parspina virescens Ostrowski de Núñez, Arredondo & Gil de Pertierra, 2011

Material deposited: MACN-Pa (type material).

Host: *Eigenmannia virescens* (Valenciennes) (type host) (Gymnotiformes: Sternopygidae).

Locality: Colastiné River (tributary of Paraná River) (type locality), Santa Fe Province.

Site of infection: Pyloric caeca, anterior and middle part of intestine.

Reference: Ostrowski de Núñez *et al.* (2011b).

Remarks: Ostrowski de Núñez *et al.* (2011b) studied the tegument surface of the species, which was compared with that of *Parspina argentinensis* and *P. carapo*.

Pseudosellacotyla Yamaguti, 1954
Pseudosellacotyla lutzi (Freitas, 1941)

Sellacotyle lutzi Freitas, 1941

Material deposited: CHIOC (type material), MACN-Pa.

Hosts: *Hoplias malabaricus* (Bloch) (type host, Brazil) (Characiformes: Erythrinidae).

Life cycle: IH1 *Aylacostoma chloroticum* Hylton Scott (Prosobranchia: Thiaridae); IH2 *Moenckhausia dichroura*, *Hyphessobrycon eques* (Characiformes: Characidae) (natural host); *Poecilia reticulata*, *Cnesterodon decemmaculatus* (Cyprinodontiformes: Poecilidae), *Gymnocorymbus ternetzi* (experimental hosts) (Characiformes: Characidae).

Localities: Brazil (type locality); Middle Paraná River: Yacyretá Dam, Corrientes Province, and Heller Peninsula and Candelaria, Misiones Province.

Site of infection: Pyloric caeca and intestine.

References: Freitas (1941a), Quintana & Ostrowski de Núñez (2014).

Family Derogenidae Nicoll, 1910
Deropegus McCauley & Pratt, 1961
Deropegus patagonicus (Szidat, 1956)

Derogenes patagonicus Torres, 1995
Thometrema patagonica Lunaschi & Drago, 2000 (published in 2001)

Material deposited: IPCAS, MACN-Pa (type material), NSMT-PI.

Hosts: *Percichthys trucha* (type host), *P. colhuapiensis*, *Salmo trutta*, *Salvelinus fontinalis*.

Localities: Pellegrini Lake and Limay River, Río Negro Province [type locality not assigned by Szidat (1956)]; Aluminé and Huechulafquén Lakes, Neuquén Province.

Site of infection: Stomach.

References: Szidat (1956b), Shimazu *et al.* (2000), Lunaschi & Drago, 2000 (published in 2001).

Genarchella Travassos, Artigas & Pereira, 1928

Paravitellotrema Watson, 1976
Caballeroiella Lamothe-Argumedo, 1977
Graziatrema Nazir & Velásquez, 1977
Quadripaludus Jiménez, Guajardo & Briseno, 1981

Genarchella fragilis Lunaschi, 1990

Material deposited: MLP (type material).

Hosts: *Astyanax fasciatus* (Cuvier), *A. abramis* (Jenyns) (type host not assigned) (Characiformes: Characidae).

Locality: Doña Flora Stream (Ensenada), Buenos Aires Province (type locality).

Site of infection: Stomach.

Reference: Lunaschi (1990).

Genarchella genarchella (Travassos, Artigas & Pereira, 1928)

Halipegus genarchella Travassos, Artigas & Pereira, 1928
Genarchella dubia Travassos, Artigas & Pereira, 1928

Material deposited: CHIOC (type material), MACN-Pa 600, 601, 602, 603 (new voucher material).

Hosts: *Oligosarcus* sp. (= *Acestrorhamphus* sp.) (type host, Brazil); *O. jenynsii* (Günther), *Charax stenopterus* (Cope) (= *Asiphonichthys stenopterus* Cope) (Characidae: Characidae), *Salminus brasiliensis*, *Leporinus friderici* (Bloch) (Characidae: Anostomidae); *Iheringichthys labrosus**, *Luciopimelodus pati**, *Pimelodus albicans*, *P. maculatus* (= *Pimelodus clarias* Linnaeus).

Localities: Emas Pirassununga, São Paulo State, Brazil (type locality); Middle Paraná River, El Dorado, Misiones Province; Colastiné River** (tributary of Paraná River), Santa Fe Province; Paraná-Guazú River**, Entre Ríos Province; Lujan River (Luján), Los Talas (Berisso), and Chascomús Lagoon (Chascomus), Buenos Aires Province.

Site of infection: Esophagus, stomach, intestine.

Life cycle: IH1 and IH2 *Heleobia australis* (d'Orbigny) (see Szidat, 1956); *H. parchappii* (see Martorelli, 1989).

References: Szidat (1956a), Martorelli (1989), Kohn *et al.* (1990), Arredondo (2013).

Remarks: New hosts and locality records. Szidat (1956a) mentioned *H. australis* as intermediate host, but this is a misidentification (see Martorelli, 1989). The progenetic metacercaria produces viable eggs, which are infective for the snail. The life cycle could be maintained without a vertebrate host for several years (Martorelli, 1989).

Genarchella parva Travassos, Artigas & Pereira, 1928

Genarchella tropica (Manter, 1936) Szidat 1954 *nec Derogenes tropicus* Manter, 1936
Genarchella szidati (Yamaguti, 1971).
For more synonyms see Lunaschi (1990) and Kohn *et al.* (2007).

Material deposited: CHIOC (type material), MACN-Pa 604, 605 (new voucher material).

Hosts: *Oligosarcus* sp. (= *Acestrorhamphus* sp.) (type host, Brazil), *Oligosarcus jenynsii*, *O. hepsetus* (Cuvier), *Charax gibbosus* (Linnaeus) (= *Cynopotamus gibbosus* Valenciennes) (Characidae: Characidae), *Salminus brasiliensis*, *Triportheus paranensis*, *Astyanax* sp., *A. bimaculatus* [= *Poeciloristhys bimaculatus* (Linnaeus)], *A. eigenmaniorum* (Cope), *A. fasciatus*, *Cheirodon interruptus* Jenyns, *Hy-*

phessobrycon meridionalis Ringuelet, Miquelarena & Menni, *Jenynsia multidentata* [= *J. lineata* (Jenyns)] (Cyprinodontiformes: Anablepidae), *Ageneiosus militaris**, *Auchenipterus nigripinnis*, *A. osteomystax* (= *A. nuchalis*), *Leporinus obtusidens*, *Loricariichthys anus* (Valenciennes) (= *Loricaria anus* Valenciennes) (Siluriformes: Loricariidae), *Luciopimelodus pati*, *Pimelodus albicans*, *P. argenteus*, *P. maculatus*, *P. ornatus* Kner, *Pseudoplatystoma corruscans* (Spix & Agassiz)*, *Pimelodella gracilis*, *Pimelodella mucosa* Eigenmann & Ward (= *Pimelodella howesi* Fowler), *Rhamdia quelen* (= *R. sapo*).

Localities: Emas Pirassununga, São Paulo State, Brazil (type locality); Paraná River (Puerto Italia), Corrientes City, Corrientes Province; Colastiné River** (tributary of Paraná River), Santa Fe Province; Saladita Lagoon (Avellaneda), Cantera (quarry) Aprilito (Ensenada), Doña Flora Stream (Ensenada), Miguelín Stream (Ensenada), Cantera (quarry) Los Talas (Berisso), Chascomús and Chis-Chis Lagoons (Chascomús) and Luján River (Luján), Buenos Aires Province; La Plata River in front of Buenos Aires City.

Site of infection: Stomach.

References: Szidat (1954), Hamann (1989), Lunaschi (1990), Gil de Pertierra & Ostrowski de Núñez (1995), Drago (1997), Arredondo (2013).

Remarks: New hosts and locality records. Referred to as *Genarchella szidati* Yamaguti, 1971 by Hamann (1989). Hamann (1989) indicated that the records of *Genarchella parva* in *Auchenipterus nuchalis*, *Jenynsia lineata* and *Pimelodella howesi*, in Argentina probably correspond to *A. osteomystax*, *J. multidentata* and *P. mucosa*, respectively (see Liotta, 2005; Aguilera & Azpelicueta, 2015; Froese & Pauly, 2016).

Thometrema Amato, 1968
Thometrema bonariensis Lunaschi, 1988

Material deposited: MLP (type and voucher material).

Host: *Australoheros facetus* (= *Cichlasoma facetum*) (type host); *Odontesthes bonariensis* (Atheriniformes: Atherinopsidae).

Locality: Chascomús Lagoon (Chascomus) (type locality), and Salada Grande Lagoon (General Lavalle), Buenos Aires Province.

Site of infection: Stomach, intestine.

References: Lunaschi (1988a), Drago (2004, 2012).

Thometrema magnifica (Szidat, 1954)

Gonocercella magnifica Szidat, 1954
Thometrema portoalegrensis Amato, 1968

Material deposited: MACN-Pa 606 (type material and new voucher material), MLP.

Hosts: *Hypostomus plecostomus* (Linnaeus) [= *Plecostomus plecostomus* (Linnaeus)], *Hypostomus commersoni* Valenciennes [= *Plecostomus commersoni* (Valenciennes)] (type host not assigned), (Siluriformes: Loricariidae).

Localities: Uruguay River in front of Santo Tomé, Corrientes Province and La Plata River in front of Buenos Aires City (type locality not assigned); Paraná-Guazú River**, Entre Rios Province; Canal Yrigoyen, Isla Talavera, Buenos Aires Province.

Site of infection: Stomach, swim bladder.

References: Szidat (1954), Gibson & Bray (1979), Kohn *et al.* (1983), Lunaschi & Sutton (1995), Arredondo (2013).

Remarks: New host and locality records. Szidat (1954) indicated the presence of *Thometrema magnifica* in *Plecostomus plecostomus*, but according to Froese & Pauly (2016) and Almirón *et al.* (2015) this species is not present in continental waters of Argentina. Probably, due to similarity among them, the record of *Hypostomus plecostomus* by Szidat (1954) corresponds to *Pterygoplichthys anisitsi* which inhabits the Paraná River basin.

Thometrema overstreeti (Brooks, Mayes & Thorson, 1979)

Paravitellotrema overstreeti Brooks, Mayes & Thorson, 1979
Thometrema rioplatense Lunaschi, 1988
For more synonyms see Kohn *et al.* (2007)

Material deposited: MACN-Pa 607, 608 (new voucher material), MLP, USNM (type material).

Host: *Potamotrygon magdalenae* (Dumeril) (Myliobatiformes: Potamotrygonidae) (type host); *Astyanax fasciatus*, *A. paraguayensis* (Fowler), *Leporinus obsutidens*, *Oligosarcus jenynsii*, *Salminus brasiliensis*, *Ageneiosus inermis*, *Auchenipterus nigripinnis*, *Luciopimelodus pati*, *Pimelodus albicans*, *P. maculatus*, *Pseudoplatystoma corruscans*, *P. reticulatum* Eigenmann & Eigenmann, *Sorubim lima* Bloch & Schneider, *Rhamdia quelen*, *Zungaro jahu* (Ihering) [= *Paulicea luetkeni* (Steindachner)].

Localities: Magdalena River in northern Colombia (type locality); Middle Paraná River, Puerto Italia, Corrientes Province; Colastiné River** (tributary of Paraná River), Santa Fe Province; Paraná-Guazú River**, Entre Ríos Province; Chis-Chis Lagoon (Chascomús), Doña Flora Stream (Ensenada), Miguelin Stream (Ensenada) and La Plata River, Buenos Aires Province.

Site of infection: Stomach.

References: Brooks *et al.* (1979), Hamann (1986, 1989), Lunaschi (1988a), Gil de Pertierra & Ostrowski de Núñez (1995), Arredondo (2013).

Remarks: New localities records. Referred to as *Genarchella genarchella* by Hamann (1986, 1989).

Family Faustulidae Poche, 1926
***Bacciger* Nicoll, 1914**
***Bacciger astyanactis* Lunaschi, 1998**

Material deposited: MLP (type material).

Host: *Astyanax fasciatus* (type host).

Locality: La Plata River (type locality) and Bagliardi Beach (Ensenada), Buenos Aires Province.

Site of infection: Rectum.

Reference: Lunaschi (1988c).

***Bacciger delvalleensis* Lunaschi, 2001**

Material deposited: MLP (type material).

Host: *Astyanax eigenmanniorum* (type host).

Locality: Cuña-pirú Stream, Aristóbulo del Valle, Misiones Province (type locality).

Site of infection: Rectum.

Reference: Lunaschi (2001).

Family Glypthelminthidae Cheng, 1959
***Glypthelmins* Stafford, 1905**
***Glypthelmins pseudium* (Mañé-Garzón & Holcman-Spector, 1967)**

Margeana pseudium Mañé-Garzón & Holcman-Spector, 1967

Material deposited: MLP.

Host: *Pseudis minuta* (Günther) (= *Pseudis mantidactylus* Boulenger) (type host) (Anura: Hylidae); *Corydoras paleatus* (Jenyns) (Siluriformes: Callichthyidae).

Locality: Bañados de la Coronilla, Departamento de Rocha and Bañado Tropa Vieja, Canelones, Uruguay (type locality); Villoldo Stream, Buenos Aires Province.

Site of infection: Intestine.

Reference: Lunaschi (1991).

Remarks: This species parasitizes amphibians and is considered an accidental infection in the fish by Lunaschi (1991).

Family Gorgoderidae Loos, 1901
***Phyllodistomum* Braun, 1899**
***Phyllodistomum mugilis* Knoff & Amato, 1992**

Material deposited: CHIOC (type material), MLP.

Hosts: *Mugil liza* Valenciennes (= *Mugil platanus* Günther) (type host, Brazil).

Locality: Guanabara Bay, Rio de Janeiro State, Brazil (type locality); Ajo River, Samborombón Bay, Buenos Aires Province.

Site of infection: Urinary bladder.

References: Montes *et al.* (2012), Montes (2013), Montes & Martorelli (2015).

***Phyllodistomum spatula* Odhner, 1902**

Material deposited: Information about type material not provided by Odhner (1902), MLP.

Host: *Bagrus bayad* (Forsskål) [= *B. bayad* (Forsskål)] and *B. docmak* (Forsskål) [= *B. docmac* (Forsskål)] (Siluriformes: Bragridae) (type host not assigned, Sudan); *Pimelodella laticeps*, *Rhamdia quelen*.

Life cycle: IH1: *Palaemonetes argentinus* Nobili; FH: *P. laciteps*, *R. quelen* (natural hosts).

Localities: Nile River, Omdurman, Sudan (type locality); Chascomús Lagoon (Chascomús), Buenos Aires Province.

Site of infection: Urinary bladder.

Reference: Lunaschi & Martorelli (1990).

Remarks: The existence of this African species in South America has to be carefully reviewed. The specimens studied by Lunaschi & Martorelli (1990) probably could belong to *Phyllodistomum rhamdiae* Amato & Amato, 1993 described from the urinary bladder of *Rhamdia quelen* in Brazil (see Amato & Amato, 1993).

Family Haploporidae Nicoll, 1914
***Chalcinotrema* Freitas, 1947**
***Chalcinotrema platense* (Lunaschi, 1984)**

Saccocoelioides platensis Lunaschi, 1984

Material deposited: MLP (type material).

Host: *Cyphocharax platanus* (Günther) [= *Curimatorbis platanus* (Günther)] (type host) (Characiformes: Curimatidae).

Locality: Boca Cerrada (Ensenada), Buenos Aires Province (type locality).

Site of infection: Intestine.

References: Lunaschi (1984b), Overstreet & Curran (2005).

***Chalcinotrema salobrensis* Freitas, 1947**

Material deposited: CHIOC (type material), MACN-Pa.

Hosts: *Triportheus paranensis* (= *Chalcinus paranensis*) (type host, Brazil); *Piaractus mesopotamicus*.

Localities: Miranda River (tributary of Paraguay River), Salobra, Mato Grosso State, Brazil (type locality); Middle Paraná River, Corrientes Province.

Site of infection: Anterior and middle part of intestine.

References: Freitas (1947), Hamann (1983).

***Forticulcita* Overstreet, 1982**
***Forticulcita platana* Andres, Curran, Fayton, Pulis & Overstreet, 2015**

Material deposited: MACN-Pa (type material), USNM (type material).

Host: *Mugil liza* (type host) (Mugiliformes: Mugilidae).

Localities: La Plata River, Punta Lara, (type locality); Salado River, Cerro de la Gloria, Buenos Aires Province.

Site of infection: Intestine.

Reference: Andres *et al.* (2015).

***Megacoelium* Szidat, 1954**
***Megacoelium plecostomi* Szidat, 1954**

Material deposited: MACN-Pa 609 (type material and voucher material).

Host: *Hypostomus plecostomus* (= *Plecostomus plecostomus*) (type host); *Hypostomus commersoni**.

Localities: La Plata River in front to Buenos Aires City, Uruguay River in front of Santo Tomé City, Corrientes Province [type locality not assigned by Szidat (1954)]; Paraná-Guazú River**, Entre Ríos Province.

Site of infection: Stomach, anterior part of intestine.

References: Szidat (1954), Arredondo (2013).

Remarks: New host and locality record. Szidat (1954) indicated the presence of *Megacoelium plecostomi* in *Plecostomus plecostomus*, but according to Froese & Pauly (2016) and Almirón *et al.* (2015) this species is not present in continental waters of Argentina. Probably, due to similarity among them, the record of *Hypostomus plecostomus* by Szidat (1954) corresponds to *Pterygoplichthys anisitsi* which inhabits the Paraná River basin.

***Saccocoelioides* Szidat, 1954**

Lecithobothrioides Thatcher & Dossman, 1974

***Saccocoelioides antonioni* Lunaschi, 1984**

Material deposited: MLP (type material).

Host: *Cyphocharax platanus* (type host).

Locality: Boca Cerrada (Ensenada), Buenos Aires Province (type locality).

Site of infection: Pyloric caeca.

Reference: Lunaschi (1984b).

***Saccocoelioides bacilliformis* Szidat, 1973**

Material deposited: MACN-Pa (type material).

Host: *Astyanax bipunctatus* (non valid species) probably *A.* cf. *bimaculatus* (Linnaeus) (see Lunaschi, 2002).

Localities: Reconquista River, Buenos Aires Province (type locality).

Site of infection: Pyloric ceca.

Reference: Szidat, 1973.

Remarks: Lunaschi (2002) considered *Saccocoelioides bacilliformis* junior synonym of *Saccocoelioides octavus* Szidat, 1970. However, Kohn *et al.* (2007) considered this species valid (see Discussion).

***Saccocoelioides carolae* Lunaschi, 1984**

Material deposited: MLP (type material).

Host: *Australoheros facetus* (= *Cichlasoma facetum* Jenyns) (type host).

Life cycle: IH1 *Heleobia parchappii*, unencysted metacercaria, without tail, free in water; FH *A. facetus*.

Localities: Los Talas (Berisso), Buenos Aires Province.

Site of infection: Intestine.

References: Lunaschi (1984b), Martorelli (1986).

***Saccocoelioides elongatus* Szidat, 1954**

Material deposited: MACN-Pa (type material).

Host: *Prochilodus lineatus* (Valenciennes) (= *Prochilodus platensis* Holmberg) (type host).

Localities: La Plata River, in front of Buenos Aires City (type locality), Middle Paraná River, Corrientes Province.

Site of infection: Intestine.

References: Szidat (1954), Hamann (1982c).

Remarks: Lunaschi (1996) considered *Saccocoelioides elongatus* junior synonym of *Saccocoelioides nanii* Szidat, 1954. However, Kohn *et al.* (2007) considered this species valid (see Discussion).

Saccocoelioides magniovatus Szidat, 1954

Material deposited: MACN-Pa (type material).

Host: *Leporinus obtusidens* (type host).

Localities: Luján River, Buenos Aires Province (type locality).

Site of infection: Intestine.

Reference: Szidat (1954).

Remarks: Lunaschi (1996) considered *Saccocoelioides magniovatus* junior synonym of *S. nanii* Szidat, 1954. However, Kohn *et al.* (2007) considered this species valid (see Discussion).

Saccocoelioides magnus Szidat, 1954

Material deposited: MACN-Pa (type material).

Host: *Cyphocharax platanus* [= *Curimata platana* (Günther)] (type host).

Localities: Middle Paraná River, in front of Rosario City, Santa Fe Province (type locality).

Site of infection: Intestine.

Reference: Szidat (1954).

Saccocoelioides nanii Szidat, 1954

Material deposited: MACN-Pa (type material), MLP.

Host: *Prochilodus lineatus, Hypostomus commersoni, Hyphessobrycon meridionalis.*

Localities: Middle Paraná River, in front of Rosario City, Santa Fe Province (type locality); Irigoyen Canal (Talavera Island) and Saladita Lagoon (Avellaneda), Buenos Aires Province.

Site of infection: Intestine.

References: Szidat (1954), Lunaschi (1996), Drago (1997).

Remarks: Lunaschi (1996) considered *S. elongatus* and *S. magniovatus* junior synonyms of *S. nanii* Szidat, 1954. However, Kohn *et al.* (2007) considered these species valid (see Discussion).

Saccocoelioides octavus Szidat, 1970

Material deposited: MACN-Pa (type material).

Hosts: *Astyanax fasciatus* (type host).

Life cycle: H11 *Heleobia parchappii*, encysted metacercaria with attached tail free swimming in water.

Localities: Artificial small stream connected with Chascomús Lagoon (Chascomús), Buenos Aires Province.

Site of infection: Pyloric caeca, intestine.

References: Szidat (1970a), Lunaschi (2002).

Saccocoelioides quintus Thatcher, 1978

Material deposited: MACN-Pa (type material).

Host: *Loricariichthys anus* (Valenciennes) (= *Loricaria anus* Valenciennes) (type host) (Siluriformes: Loricariidae).

Localities: Middle Paraná River, in front of Rosario City, Santa Fe Province (type locality); Paraná River, Corrientes Province.

Site of infection: Intestine.

References: Szidat (1954), Thatcher (1978).

Remarks: Referred to as *Saccocoelioides* sp. 5 by Szidat (1954).

Saccocoelioides szidati Travassos, Freitas & Kohn, 1969

Material deposited: MACN-Pa (type material).

Host: *Schizodon fasciatus* Spix & Agassiz (Characiformes: Anostomidae) (type host); *L. obtusidens*.

Localities: Middle Paraná River, in front of Rosario City, Santa Fe Province (type locality); Middle Paraná River, Corrientes Province.

Site of infection: Intestine.

References: Szidat (1954), Travassos *et al.* (1969), Hamann (1983).

Remarks: Referred to as *Saccocoelioides* sp. 6 by Szidat (1954).

Xiha Andres, Curran, Fayton, Pulis & Overstreet, 2005
Xiha fastigata (Thatcher & Sparks, 1958)

Dicrogaster fastigatus Thatcher & Sparks, 1958

Material deposited: MLP, USNM (type material).

Host: *Mugil cephalus* Linnaeus (type host, USA), *Mugil liza* (Mugiliformes: Mugilidae).

Life cycle: 1H1 *Heleobia conexa* (Gaillard), cysts of metacercaria free in water.

Localities: Grand Isle (Louisiana), Gulf of México, USA (type locality); Salado River relief canal and Ajo River, Samborombón Bay, Mar Chiquita Lagoon (Mar Chiquita), Buenos Aires Province.

Site of infection: Intestine.

References: Alarcos & Etchegoin (2010), Montes *et al.* (2012), Montes (2013), Lado *et al.* (2013), Montes & Martorelli (2015), Andres *et al.* (2015).

Remarks: Alarcos & Etchegoin (2010), Montes (2012), Montes *et al.* (2012), and Montes & Martorelli (2015) reported *Dicrogaster fastigatus* in Argentina. Recently, Andres *et al.* (2015) transferred the specimens described as *Dicrogaster fastigatus* by Thatcher & Sparks (1958) to a new genus, as *Xiha fastigata.* Even thougth Andres *et al.* (2015) did not comment on the Argentinian records for *Dicrogaster fastigatus*, these specimens have a spined hermaphroditic duct as it is present in *Xiha* (Montes, 2013).

Family Haplosplanchnidae Poche, 1926
Hymenocotta Manter, 1961
Hymenocotta manteri Overstreet, 1969

Material deposited: MLP, USNM (type material).

Hosts: *Mugil cephalus* Linnaeus (type host, USA), *M. liza*.

Locality: Biscayne Bay, Florida, USA (type locality); Salado River relief canal and Ajo River, Samborombón Bay, Buenos Aires Province.

Site of infection: Intestine.

References: Montes *et al.* (2012), Montes (2013), Montes & Martorelli (2015).

Family Hemiuridae Loos, 1899
Dinurus Looss, 1907
Dinurus breviductus Looss, 1907

Dinurus barbatus (Cohn, 1902)

Material deposited: MACN-Pa.

Hosts: *Ramnogaster melanostoma* (Eigenmann) [= *Clupea melanostoma* (Eigenmann)] (Clupeiformes: Clupeidae) (type host); *Rhaphiodon vulpinus* Spix & Agassiz (Characiformes: Cynodontidae).

Locality: La Plata River, Buenos Aires Province.

Site of infection: Free in coelomic cavity.

Reference: Szidat *et al.* (1950).

Remarks: Szidat *et al.* (1950) found numerous eggs in the worms inhabiting the coelomic cavity.

Stomachicola Yamaguti, 1934
Stomachicola lycengraulidis Tanzola & Seguel, 2012

Material deposited: MLP (type material), MACN-Pa 610/1–2.

Hosts: *Lycengraulis grossidens* (Agassiz) (Clupeiformes: Engraulidae) (type host).

Locality: Bahía Blanca estuary (type locality) and Paraná River, Buenos Aires Province; Paraná-Guazú River**, Entre Ríos Province.

Site of infection: Stomach.

Reference: Tanzola & Seguel (2012), Arredondo (2013).

Remarks: New locality record. Tanzola & Seguel (2012) also recorded this species in the marine fish *Conger orbignianus* Valenciennes.

Lecithasteridae Odhner, 1905
Lecithaster Lühe, 1901
Lecithaster confusus Odhner, 1905

Material deposited: NRM (type material), MLP.

Host: *Alosa agone* (Scopoli) [= *A. finta* (Cuvier)] and *Clupea harengus* Linnaeus (Clupeiformes: Clupeidae) (type host not assigned); *Jenynsia multidentata*.

Locality: Mediterranean and North Sea (type locality not assigned, Europe); Salado River relief canal, Samborombón Bay, Buenos Aires Province.

Site of infection: Intestine.

Reference: Montes (2013).

Remarks: Montes (2013) recorded the presence of this Mediterranean and North Sea species in South America. These specimens have to be carefully reviewed, they probably could belong to *Lecithaster intermedius* Szidat, 1954 (see below).

Lecithaster intermedius Szidat, 1954

Material deposited: MACN-Pa (type material).

Host: *Ramnogaster melanostoma* (type host).

Locality: La Plata River in front of Buenos Aires City (type locality).

Site of infection: Intestine.

Reference: Szidat (1954).

Family Microscaphidiidae Loos, 1900
Curunuai Travassos, 1961
Curunuai curunuai Travassos, 1961

Material deposited: CHIOC (type material), MACN-Pa 613 (new voucher material).

Hosts: *Myleus* sp. (Characiformes: Serrasalminae) (type host, Brazil); *Piaractus mesopotamicus*; *Pterodoras granulosus**.

Localities: Amazon River (Pará State), Brazil (type locality); Middle Paraná River, Corrientes Province; Colastiné River ** (tributary of the Paraná River), Santa Fe Province.

Site of infection: Intestine.

References: Hamann (1982a), Arredondo (2013).

Remarks: New host and locality record.

Family Plagiorchiidae (Lühe, 1901)
***Kalipharynx* Boeger & Thatcher, 1983**
***Kalipharynx piramboae* Boeger & Thatcher, 1983**

Material deposited: IOC (type material), MLP.

Host: *Lepidosiren paradoxa* Fitzinger (Dipnoi: Lepidosirenidae) (type host, Brazil).

Localities: Amazon River, Manaos City, Brazil (type locality); Paraná River, Resistencia City, Chaco Province.

Site of infection: Anterior part of intestine.

References: Boeger & Thatcher (1983), Lunaschi (1994).

Remarks: *Kalipharynx* Boeger & Thatcher, 1983 is considered as genus *incertae sedis* by Pojmańska *et al.* (2008).

Family Zonocotylidae Yamaguti, 1963
***Zonocotyle* Travassos, 1948**

Zonocotyloides Padilha, 1978

***Zonocotyle bicaecata* Travassos, 1948**

Material deposited: CHIOC (type material), MLP.

Host: *Steindachnerina elegans* (Steindachner) [= *Curimata elegans* (Steindachner)] (type host, Brazil), *Cyphocharax gilbert* (Quoy & Gaimard) [= *Pseudocurimata gilberti* (Quoy & Gaimard)], *Cyphocharax platanus* (Günther) [= *Curimatorbis platanus* (Günther)], *Steindachnerina brevipinna* (Eigenmann & Eigenmann) [= *Pseudocurimata nitens* (Holmberg)] (Characiformes: Curimatidae).

Localities: Mogi-Guaçu River, (Emas, Pirassununga), São Paulo State, Brazil (type locality); Los Talas (Berisso), Buenos Aires Province.

Site of infection: Intestine.

References: Travassos (1947), Lunaschi (1988b).

Family Zoogonidae Odhner, 1911
***Porangatus* Fernandes, Malta & Morias, 2013**
***Porangatus ceteyus* Fernandes, Malta & Morias, 2013**

Material deposited: CHIOC (type material), MACN-Pa 615/1–2 (new voucher material).

Host: *Hoplosternum littorale* (Siluriformes: Callichthyidae) (type host).

Localities: Lake Catalão, Amazonas State, Brazil (type locality); Paraná-Guazú River**, Entre Ríos Province.

Site of infection: Middle and posterior part of intestine.

References: Arredondo (2013), Fernandes *et al.* (2013).

Remarks: First citation of this species in Argentina.

***Steganoderma* Stafford, 1904**
***Steganoderma macrophallus* Szidat & Nani, 1951**

Material deposited: MACN-Pa (type material).

Host: *Basilichthys microlepidotus* (Jenyns) (= *Basilichthys microlepidota* Girard) (Atheriniformes: Atherinopsidae) (type host).

Localities: Limay River (Plottier), Neuquén Province (type locality); Quequén River (Buenos Aires Province).

Site of infection: Intestine.

Reference: Szidat & Nani (1951).

***Steganoderma szidati* Viozzi, Flores & Ostrowski de Núñez, 2000**

Material deposited: MAC-Pa (type material), UNC (type material).

Host: *Galaxias maculatus* (Jenyns) (type host), *Galaxias platei* Steindachner, *Aplochiton zebra* Jenyns (Osmeriformes: Galaxiidae).

Localities: Gutiérrez Lake, Rio Negro Province (type locality); Glacial lakes of Andean Patagonia; Moreno and Nahuel Huapi Lakes, Rio Negro Province; Epuyén and Cholila Lakes, Chubut Province.

Site of infection: Posterior part of intestine.

References: Viozzi *et al.* (2000, 2009), Revenga *et al.* (2005), Fernández *et al.* (2012, 2015a, b).

***Steganoderma valchetensis* Etchegoin, Cremonte & Escalante, 2002**

Material deposited: BMNH (type material), MLP (type material).

Host: *Gymnocharacinus bergii* Steindachner (Characiformes: Characidae) (type host).

Localities: Valcheta Creek (on the Somuncurá Plateau), Rio Negro Province (type locality).

Site of infection: Intestine.

Reference: Etchegoin *et al.* (2002).

Table 1: List of the Argentinean fish hosts and their adult trematodes (fish are presented by order and families in alphabetical order). ● indicated doubtful fish host.

Atheriniformes
Fam. Atherinopsidae
Basilichthys microlepidotus
Steganoderma macrophallus
Odontesthes bonariensis
Thometrema bonariensis

Characiformes
Fam. Acestrorhynchidae
Acestrorhynchus pantaneiro
Rhiphidocotyle santanaensis
Fam. Anostomidae
Leporinus friderici
Genarchella genarchella
L. obtusidens
Creptotrema creptotrema
C. lynchi
Genarchella parva
Thometrema overstreeti
Saccocoelioides magniovatus
S. szidati
Schizodon fasciatus
Saccocoelioides szidati
Fam. Bryconidae
Salminus brasiliensis
Genarchella genarchella
G. parva
Neocladocystis intestinalis
Prosorhynchoides cambapuntaensis
Prosthenhystera obesa
Thometrema overstreeti
Travassosinia dilatata
Fam. Characidae
Astyanax sp.
Genarchella parva
Magnivitellinum simplex
A. abramis
Genarchella fragilis
A. bimaculatus
Creptotrematina dissimilis
Genarchella parva
Saccocoelioides bacilliformis
A. eigenmanniorum
Bacciger delvalleensis
Creptotrematina dissimilis
Genarchella parva
Magnivitellinum simplex
A. fasciatus
Bacciger astyanctis
Genarchella fragilis
G. parva
Magnivitellinum simplex
Thometrema overstreeti
Saccocoelioides octavus
A. paraguayense
Thometrema overstreeti
Charax gibbosus
Genarchella parva
C. stenopterus
Genarchella genarchella
Cheirodon interruptus
Genarchella parva
Gymnocharacinus bergii
Steganoderma valchetensis
Hyphessobrycon meridionalis
Genarchella parva
Saccocoelioides nanii
Oligosarcus jenynsii
Genarchella genarchella
G. parva
Magnivitellinum simplex
Thometrema overstreeti
O. hepsetus
Genarchella parva
Fam. Curimatidae
Cyphocharax gilbert
Acanthostomum gnerii
Zonocotyle bicaecata
C. platanus
Chalcinotrema platense
Saccocoelioides antonioni
S. magnus
Zonocotyle bicaecata
Steindachnerina brevipinna
Zonocotyle bicaecata
Fam. Cynodontidae
Rhaphiodon vulpinus
Dinurus breviductus
Fam. Erythrinidae
Hoplias malabaricus
Pseudoselacotyla lutzi
Fam. Prochilodontidae
Prochilodus lineatus
Saccocoelioides elongatus
S. nanii
Sanguinicola argentinensis
Fam. Serrasalmidae
Piaractus mesopotamicus
Curumai curumai
Chalcinotrema salobrensis
Dadaytrema oxycephala
Travassosinia dilatata
Fam. Triportheidae
Triportheus paranensis
Creptotrematina dispar
Chalcinotrema salobrensis
Genarchella parva

Clupeiformes
Fam. Clupeidae
Ramnogaster melanostoma
Dinurus breviductus
Lecithaster intermedius
Fam. Engraulidae
Lycengraulis grossidens
Stomachicola lycengraulidis

Cyprinodontiformes
Fam. Anablepidae
Jenynsia multidentata
Genarchella parva
Lecithaster confusus

Dipnoi
Fam. Lepidosirenidae
Lepidosiren paradoxa
Kalipharynx piramboae

Gymnotiformes
Fam. Gymnotidae
Gymnotus sp.
Parspina carapo
Fam. Rhamphichthyidae
Rhamphichthys rostratus
Auriculostoma platense
Fam. Sternopygidae
Eigenmannia virescens
Parspina virescens

Mugiliformes
Fam. Mugilidae
Mugil liza
Forticulcita platana
Hymenocotta manteri
Phyllodistomum mugilis
Xiha fastigata

Osmeriformes
Fam. Galaxiidae
Aplochiton zebra
Steganoderma szidati
Galaxias maculatus
Acanthostomoides apophalliformis
Allocreadium pichi
Steganoderma szidati
G. platei
Steganoderma szidati

Perciformes
Fam. Cichlidae
Australoheros facetus
Lobatostoma jungwirthi
Thometrema bonariensis
Saccocoelioides carolae
Cichlasoma dimerus
Crassicutis cichlasomae
Crenicichla lepidota
Crassicutis cichlasomae
Gymnogeophagus australis
Homalometron pseudopallidum
Fam. Percichthyidae
Percichthys colhuapiensis
Acanthostomoides apophalliformis
Allocreadium patagonicum
Deropegus patagonicus
P. trucha
Acanthostomoides apophalliformis
Allocreadium patagonicum
Deropegus patagonicus
Homalometron papilliferum
Posterotestes unelen
Fam. Sciaenidae
Pachyurus bonariensis
Auriculostoma macrorchis

Pleuronectiformes
Fam. Achiridae
Catathyridium jenynsii
Prosorhynchoides rioplatensis

Salmoniformes
Fam. Salmonidae
Onchorhynchus mikiss
Acanthostomoides apophalliformis
Salmo trutta
Acanthostomoides apophalliformis
Deropegus patagonicus
Salvelinus fontinalis
Deropegus patagonicus

Siluriformes
Fam. Auchenipteridae
Agenieosus inermis
Auriculostoma macrorchis
Microrchis oligovitellinum
Thometrema overstreeti
A. militaris
Auriculostoma macrorchis
Genarchella parva
Microrchis oligovitellinum
Auchenipterus nigripinnis
Auriculostoma macrorchis
Genarchella parva
Thometrema overstreeti
A. osteomystax
Auriculostoma macrorchis
Genarchella parva
Trachelyopterus galeatus
Creptotrema creptotrema
Dadaytremoides parauchenipteri
T. striatulus
Creptotrema creptotrema
Microrchis oligovitellinum
Fam. Callichthyidae
Corydoras paleatus
Glypthelmis pseudium
Hoplosternum littorale
Magnivitellinum corvitellinum
Plehniella coelomicola
Porangatus ceteyus
Fam. Diplomystidae
Olivaichthys viedmensis
Acanthostomoides apophalliformis
Fam. Doradidae
Pterodoras granulosus
Curumai curumai
Dadaytrema gracilis
D. oxycephala
Microrchis oligovitellinum
Travassosinia dilatata
Rhinodoras dorbignyi
Auriculostoma macrorchis
A. platense
Palaeocryptogonimus claviformis
Fam. Heptapteridae
Pimelodella gracilis
Dadaytrema gracilis
Genarchella parva
Parspina argentinensis
P. pimelodellae
P. laticeps
Acanthostomum gnerii
Phyllodistomum spatula
P. mucosa
Genarchella parva
Rhamdia quelen
Acanthostomum gnerii
Genarchella parva
Phyllodistomum spatula

Thometrema overstreeti
Fam. Loricariidae
Hypostomus commersoni
Crassicutis intermedius
Megacoelium plecostomi
Thometrema magnifica
Saccocoelioides nanii
Hypostomus plecostomus•
Megacoelium plecostomi
Thometrema magnifica
Loricariichthys anus
Genarchella parva
Saccocoelioides quintus
Paraloricaria vetula
Procaudotestis uruguayensis
Fam. Pimelodidae
Iheringichthys labrosus
Auriculostoma platense
Genarchella genarchella
Parspina argentinensis
Plehniella coelomicola
Luciopimelodus pati
Auriculostoma macrorchis
Creptotrema pati
Genarchella genarchella
G. parva
Microrchis oligovitellinum
Prosthenhystera obesa
Thometrema overstreeti
Parapimelodus valenciennis
Parspina argentinensis
Pimelodus albicans
Auriculostoma platense
Genarchella genarchella
G. parva
Parspina argentinensis
Plehniella coelomicola
Prosthenhystera obesa
Thometrema overstreeti
P. argenteus
Auriculostoma platense
Genarchella parva
Parspina argentinensis
P. maculatus
Auriculostoma platense
Genarchella genarchella
G. parva
Parspina argentinensis
Plehniella coelomicola
Thometrema overstreeti
P. ornatus
Genarchella parva
Pseudoplatystoma corruscans
Genarchella parva
Plehniella coelomicola
Thometrema overstreeti
P. reticulatum
Thometrema overstreeti
Sorubim lima
Magnivitellinum simplex
Thometrema overstreeti
Zungaro jahu
Thometrema overstreeti

DISCUSSION

This checklist includes 77 species of adult trematodes (Aspidogastrea and Digenea) belonging to 45 genera and 21 families. The highest species richness was recorded for the family Haploporidae with 15 species, followed by Allocreadiidae and Cryptogonimidae, with nine species each. The number of species for the remaining 18 families ranges between one and seven species.

In regard to digeneans from Argentina, five new species were reported (*Forticulcita platana*, *Parspina carapo*, *P. pimelodellae* and *P. virescens* and *Stomachicola lycengraulidis*), and 9 were cited for the first time in the country (*Crassicutis cichlasomae*, *Hymenocotta manteri*, *Lecithaster confusus*, *Magnivitellinum corvitellinum*, *Neocladocystis intestinalis*, *Porangatus ceteyus*, *Phyllodistomum mugilis*, *Pseudosellacotyla lutzi* and *Xiha fastigata*) between 2007 and 2016 (Kohn *et al.*, 2007, Ostrowski de Núñez *et al.*, 2011; Montes *et al.*, 2012; Tanzola & Seguel, 2012; Arredondo, 2013; Arredondo & Ostrowski de Núñez, 2013; Montes, 2013; Quintana & Ostrowski de Núñez, 2014; Andres *et al.*, 2015; Montes & Martorelli, 2015; Quintana & Ostrowski de Núñez, 2016). Moreover, new hosts were found for 17 species (*Auriculostoma macrorchis*, *A. platense*, *Creptotrema creptotrema*, *Crassicutis cichlasomae*, *Curumai curumai*, *Dadaytrema gracilis*, *Genarchella genarchella*, *G. parva*, *Hymenocotta manteri*, *Lecithaster confusus*, *Magnivitellinum simplex*, *Megacoelium plecostomi*, *Microrchis oligovitellinum*, *Parspina argentinensis*, *Plehniella coelomicola*, *Prostenhystera obesa*, and *Travassosinia dilatata*). On the other hand, 28 digenean species have been recorded in new localities of Argentina (including new host records plus *Crassicutis intermedius*, *Dadaytrema oxycephala*, *Magnivitellinum corvitellinum*, *Neocladocystis intestinalis*, *Phylodistomum mugilis*, *Porangatus ceteyus*, *Pseudosellacotyla lutzi*, *Stomachicola lycengraulidis*, *Thometrema magnifica*, *T. overstreeti* and *Xiha fastigata*).

A final comment should be made on some trematode species: 1) The specimen of *Steganoderma oviformis* Szidat, 1962 reported from Argentina by Kohn *et al.* (2007) had actually been collected in Valdivia, Chile (see Fernández *et al.*, 2012); 2) there is controversy about the validity of some *Saccocoelioides* species described by Szidat (see Kohn, 1985; Lunaschi, 1996, 2002; Kohn *et al.*, 2007) because the type material of these species (deposited at the MACN) is poorly fixed and improperly stained, highlighting the need to clarify their taxonomic status by the examination of new material from type hosts and localities; 3) *Crassicutis cichlasomae* has a wide geographic distribution, as it parasitizes 25 species of cichlids in Mexico and other hosts in Central America (Nicaragua, Costa Rica and Cuba) and South America (Brazil) (Razo-Mendivil *et al.*, 2013). Recent genetic studies by Razo-Mendivil *et al.* (2010, 2013) revealed that *C. cichlasomae* represents a complex of cryptic species, requiring a thorough morphological characterization for

consistent species identification. Razo-Mendivil *et al.* (2013) suggest that *C. cichlasomae* specimens from Cuba and Brazil belong to a new species, and a similar line of reasoning may apply to the Argentinean specimens. Molecular studies of South American trematodes would help resolve some of these issues.

In the present checklist 34, 31, and 11 species of digeneans have been recorded in 26, 30 and seven species of Characiformes, Siluriformes and Perciformes, respectively. These orders not only show the highest species richness of freshwater fishes, but also harbour the highest species richness of digeneans in South America, including Argentina. The high diversity of trematodes reported in Characiformes and Siluriformes is probably due to the utmost sampling effort, as they included species of great commercial value, which makes them readily available for parasitologists. Future trematode studies might also include fish hosts used as baits, such as species of the families Characidae (Characiformes) locally called "mojarras", Cichlidae (Perciformes) and all the families of Gymnotiformes (knifefish), which have been scarcely studied. Indeed, recent parasitological surveys of Gymnotiformes revealed the presence of two new species of the genus *Parspina*. This highlights the importance of considering fishes of minor commercial value for the discovery of new trematodes.

Few years ago, Reis *et al.* (2003) listed 4475 valid fish species from South and Central America and assumed that about 1550 remain to be described. Recently, Reis (2013) added new records to the list of Neotropical fishes and estimated a total of 8000 fish species in the region. South America possesses two of the major hydrological basins of the world, namely the Amazon River and the Paraná-La Plata River basins, followed by the Uruguay River, which has been scarcely studied from a parasitological point of view. According to Choudhury *et al.* (2016), less than 5% of the highly diverse South American ichthyofauna has been examined for parasites, suggesting that the biodiversity of freshwater fish hosts and their adult trematodes in South America is underestimated.

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